Applicants note with appreciation the rapid turnaround associated with the Advisory Action of May 14, 2001. The six month statutory period associated with this case expires on July 5, 2001 and thus confirmaton of the conclusions reached with respect to this case by that date would be greately appreciated.

In the Office Action, the drawings were indicated as being objectionable for not showing every feature of the invention specified in the claims. Accompanying the last response was a proposed Drawing Amendment which was not entered. As to the drawing objection raised it is respectfully submitted that the original drawing sheet adequately illustrates, albeit in schematic fashion, the presently claimed relationship of the invention, particularly in view of the full description of what is being schematically shown in the drawings.

In the Office action, claims 1-7 and 19 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Provided herewith are claim amendments in both clean and marked up form in which claim 19 has been cancelled (thus rendering applicable the first and second paragraph 35 U.S.C. § 112 rejections) while claim 1 has been amended and is believed to be in ready condition for allowance. In addition to the changes to claim 1 being considered to place it in immediate condition for allowance the changes are also respectfully submitted to render non-applicable the 35 U.S.C. § 112, second paragraph rejection raised againt claim 1. No new matter is considered to have been introduced into amended claim 1 as the original disclosure provides full support for the language currently in claim 1. Accordingly, entry and removal of the rejection under

35 U.S.C. § 112, second paragraph raised againt claim 1 is respectfully requested.

Claims 1-7 and 19 were rejected in the Office Action as being unpatentable over Austin, in view of Shofner and Naber. A review of the accompanying claim 1 reveals that it clearly sets forth the interrelationship between the melting furnace's firing space and the lesser height stabilizing section to which the glass mass is provided downstream of the firing space of the furnace but within the confines of the melting furnace such that the stabilizing section opens out to the firing space of that furnace. Claim 1 also clearly sets forth the method of the invention where the glass mass is fed via a feed port that extends between an interior surface of the stabilizing section and the further downsteam feeder where the glass mass is retained to obtain the glass mass composition set out in claim 1. Apparatus claim 8 also has been presented and includes the stucture oulined above in assocaition with method claim 1and is believed clearly allowable over the prior art of record (including that considered with the no cancelled linking claim 19). It is understood that the cancellation of the linking claim, places the retention of claim 8 at the discretion of the Examiner.

A review of the prior art (particularly referencing being made to the Shofner reference) fails to show the claimed method and apparatus features described above with a melting furnace having a firing section and a lesser height stabilization section with a port extending from the interior of the stabilizing sction to feed into a feeder port where the noted constituents are obtainable prior to fiber formation. In view of this withdrawal and allowance of this case is respectfully requested.

Accordingly, in view of the above amendments and Remarks, Applicant respectfully submits that all of the claims are allowable, and that this application is therefore in condition for allowance. Favorable Action is courteously requested at the Examiner's earliest convenience.

If any fees are due in connection with the filing of this Amendment or any papers that accompany it, such as fees under 37 C.F.R. §§ 1.16 or 1.17, please charge the fees to our Deposit Account No. 02-4300. If an extension of time under 37 C.F.R. § 1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The extension fee also should be charged to Deposit Account No. 02-4300.

If for any reason a telephone discussion would facilitate the prosecution of this case to allowance, the Examiner is invited to telephone the undersigned to discuss the case.

Respectfully submitted,

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By: _____

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June 5, 2001

159112.1

033611R002

MARKED UP VERSION OF CLAIM AMENDMENTS (accompanying June 5, 2001 filing)

1. (Twice Amended) A method for producing basalt fibers, comprising the steps of:

preheating basalt;

introducing the preheated basalt into a melting furnace;

heating the basalt in a firing space within said furnace to form a glass mass;

[stabilizing] providing the glass mass [volume in] to a stabilizing section of the melting furnace, which stabilizing section is of a lesser height than the firing space and has an interior that opens out to the firing space, until [it] the glass mass reaches a fiber manufacturing temperature, and then, introducing the glass mass from the stabilizing section into a feeder by passing the glass mass through a feed port extending between an interior surface of said stabilizing section and the feeder and [stabilizing constituents of] retaining the glass mass in the feeder to obtain a glass mass having the composition

$$\frac{Al_2O_3 + SiO_2}{CaO + MgO} \geq 3$$

$$\frac{FeO}{Fe_2O_3} \geq 0.5$$

$$\frac{2Al_2O_3 + SiO_2}{2Fe_2O_3 + FeO + CaO + MgO + K_2O + Na_2O} \geq 0.5; \text{ and}$$

forming fibers by pulling the glass mass from spinnerets which receive glass from the feeder.

2. A method according to claim 1 wherein the preheating step heats the basalt to a temperature of 150 - 900 ^{0}C, and providing the glass mass to the stabilizing section includes providing the glass mass to a stabilizing section that has a height .4 to .6 times that of the firing space.

8. (Twice Amended) Apparatus for producing basaltic fibers, comprising

a basalt receiver;

a melting furnace having a firing space and a stabilizing section with the stabilizing section being of lesser heigh than the firing space and the stabilizing section opening out to the firing space;

a heat exchange connecting the basalt receiver to the firing space for preheating basalt which is charged into the melting furnace;

a feeder which receives molten glass from the melting furnace, said feeder being connected by the stabilizing section to the firing space by way of a port opening extending from an interior surface of said stabilizing section to said feeder;

spinnerts which receive molten glass from the feeder; and

mechanisms which pull fibers from the spinnercts.

19. (CANCELLED)

033611R002

CLEAN VERSION OF CLAIMS (accompanying June 5, 2001 filing)

1. A method for producing basalt fibers, comprising the steps of:

preheating basalt;

introducing the preheated basalt into a melting furnace;

heating the basalt in a firing space within said furnace to form a glass mass;

providing the glass mass to a stabilizing section of the melting furnace, which stabilizing section is of a lesser height than the firing space and has an interior that opens out to the firing space, until the glass mass reaches a fiber manufacturing temperature, and then, introducing the glass mass from the stabilizing section into a feeder by passing the glass mass through a feed port extending between an interior surface of said stabilizing section and the feeder and retaining the glass mass in the feeder to obtain a glass mass having the composition

$$\frac{Al_2O_3 + SiO_2}{CaO + MgO} \geq 3$$

$$\frac{FeO}{Fe_2O_3} \geq 0.5$$

$$\frac{2Al_2O_3 + SiO_2}{2Fe_2O_3 + FeO + CaO + MgO + K_2O + Na_2O} \geq 0.5; \text{ and}$$

forming fibers by pulling the glass mass from spinnerets which receive glass from the feeder.

2. A method according to claim 1 wherein the preheating step heats the basalt to a temperature of 150 - 900 ^{0}C, and providing the glass mass to the stabilizing section includes providing the glass mass to a stabilizing section that has a height .4 to .6 times that of the firing space.

8. Apparatus for producing basaltic fibers, comprising

a basalt receiver;

a melting furnace having a firing space and a stabilizing section with the stabilizing section being of lesser heigh than the firing space and the stabilizing section opening out to the firing space;

a heat exchange connecting the basalt receiver to the firing space for preheating basalt which is charged into the melting furnace;

a feeder which receives molten glass from the melting furnace, said feeder being connected by the stabilizing section to the firing space by way of a port opening extending from an interior surface of said stabilizing section to said feeder;

spinnerts which receive molten glass from the feeder; and

mechanisms which pull fibers from the spinnerets.